CONTENTS SHEET NO.

2

3,4

5-8

9

(930B S Ŕ REFERENCE

DESCRIPTION TITLE SHEET LEGEND (SOIL & ROCK) RETAINING WALL ENVELOPES BORE LOGS

SOIL TEST RESULTS

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION **DIVISION OF HIGHWAYS** GEOTECHNICAL ENGINEERING UNIT

STRUCTURE SUBSURFACE INVESTIGATION

COUNTY CHATHAM

PROJECT DESCRIPTION CHATHAM PARK WAY NORTH OF PROPOSED GRANT DRIVE TO US 15/501

SITE DESCRIPTION <u>RETAINING</u> WALL 1 -WI- STATION 10+00 TO 12+66.12 (-L-161+50 TO 164+10 RT)RETAINING WALL 2 -W2- STATION 10+00 TO 12 + 79.29 (-L - 161 + 50 TO 164 + 28 LT)

548 48. PROIEC

STATE PROJECT REFERENCE NO. STATE TOTAL SHEETS NO. N.C R-5930B 1

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES AND SOLI TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N.C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT (1991) 707-6805. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT PART OF THE CONTRACT.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND THE IN STIU (IN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEOREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOLL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIDDER OF CONTRACTOR IS CAUTIONED THAT DETAILS SHOWN ON THE SUBSURFACE PLANS ARE PRELIMINARY ONLY AND IN MANY CASES THE FINAL DESIGN DETAILS ARE DIFFERENT. FOR BIDDING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PLANS AND DOCUMENTS FOR FINAL DESIGN INFORMATION ON THIS PROJECT. THE DEPARTMENT DOES NOT WARANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPHION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THE PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OF FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

- NOTES: I. THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N.C. DEPARTMENT OF TRANSPORTATION AS ACCURATE NOR IS IT CONSIDERED PART OF THE PLANS, SPECIFICATIONS OR CONTRACT FOR THE PROJECT. 2. BY HAVING REQUESTED THIS INFORMATION, THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

1 ENGOINEE
M. STANBURY, PG
SUBTERRA EXP.
INVESTIGATED BY <u>N. MOHS, LG</u>
DRAWN BY <u>C. Stephens</u> , Git
CHECKED BY B. SMITH, PG
SUBMITTED BY <u>N. MOHS, LG</u>
DATE <u>NOVEMBER</u> 2024

PERSONNEL

CONSULTING & ENGINEERING



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS GEOTECHNICAL ENGINEERING UNIT SUBSURFACE INVESTIGATION

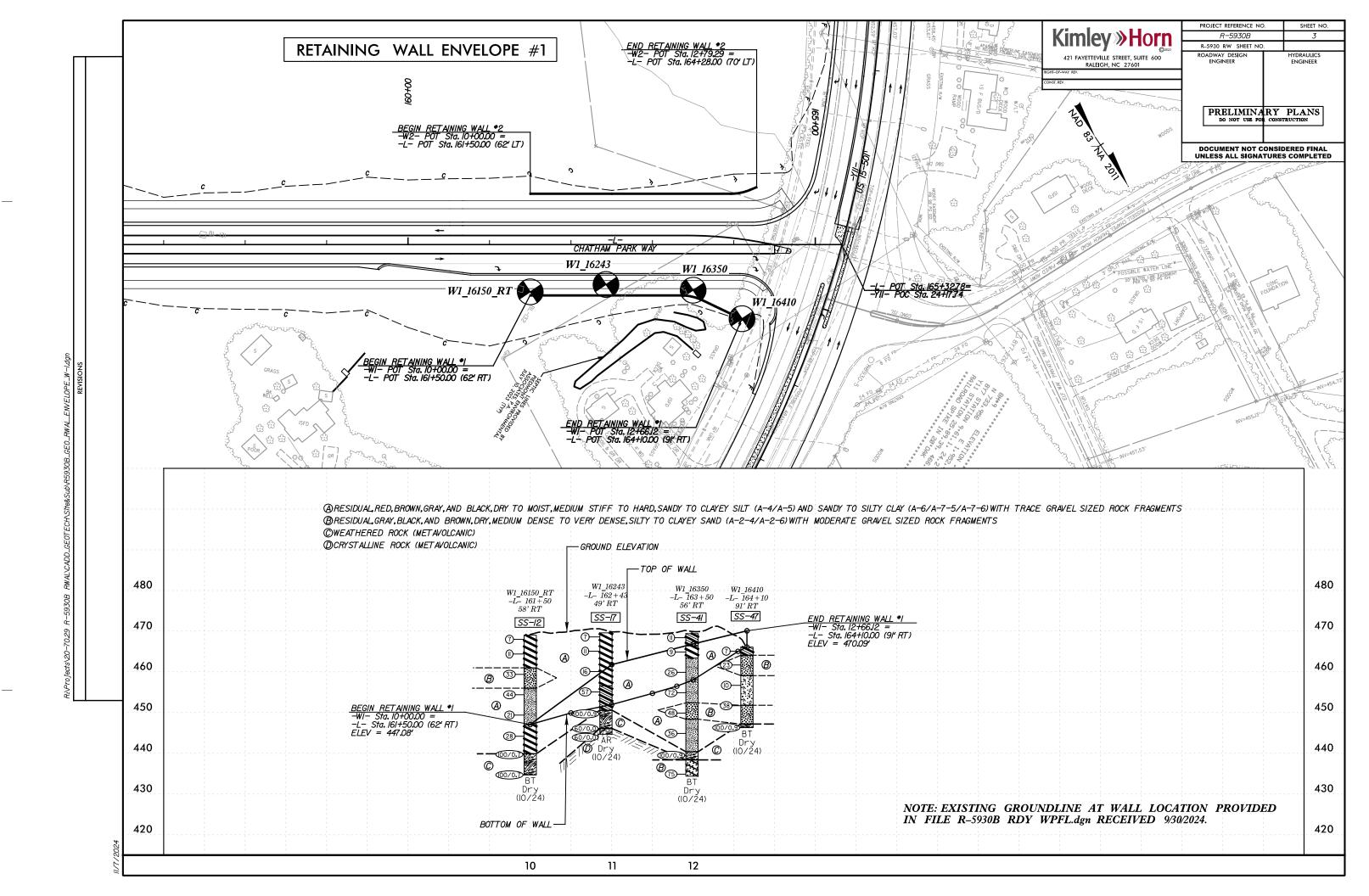
SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

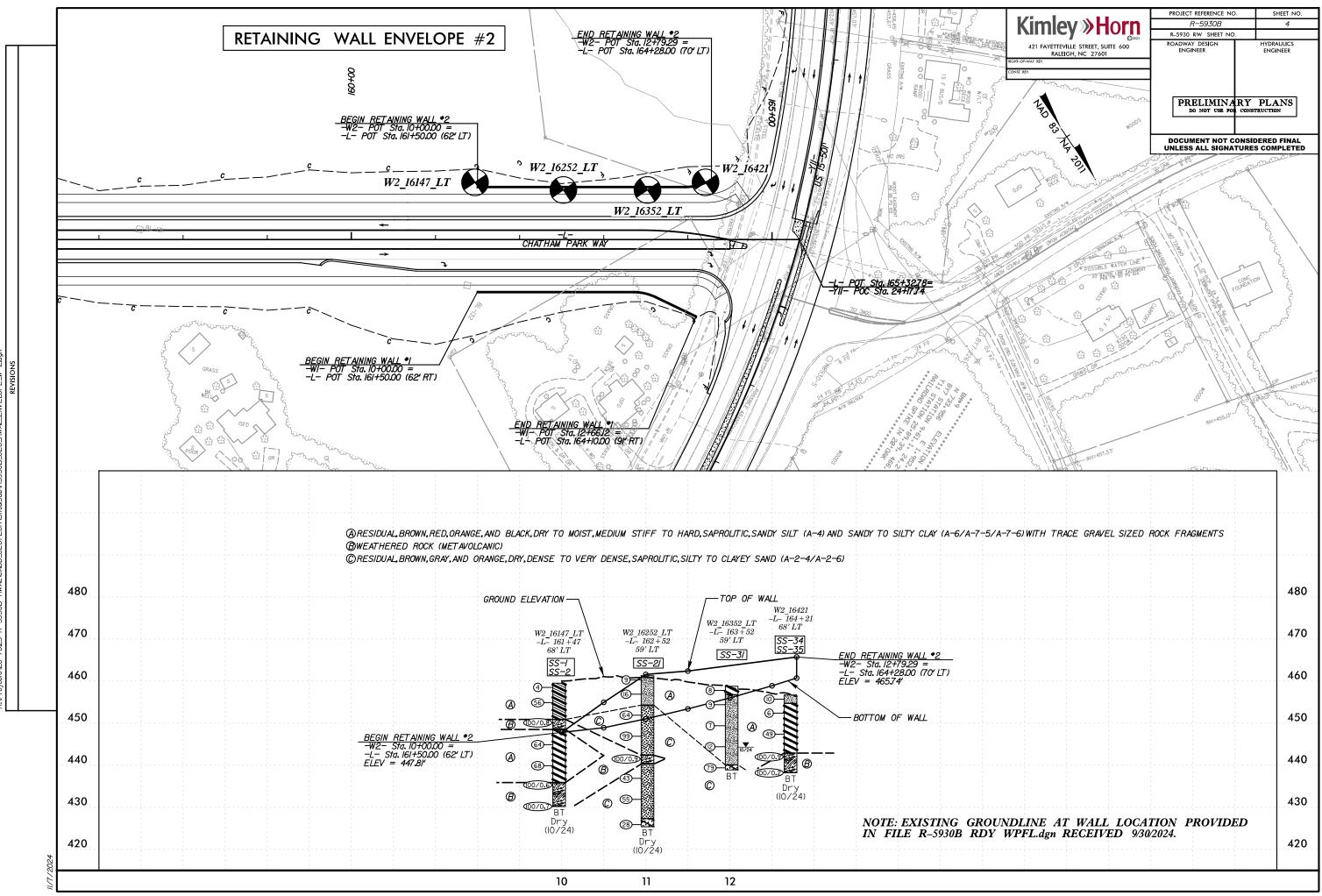
			SOIL C	JESCR!	IPTION	1				1		G	RADATION						ROCK D	ESCRIPTION
BE PENET ACCORDI IS B CONSISTE	TRATED WITH ING TO THE BASED ON TH ENCY, COLOR,) UNCONSOLIDAT H A CONTINUOUS STANDARD PENE HE AASHTO SYS , TEXTURE, MOIST	ED, SEMI-CON 5 FLIGHT POV ETRATION TE TEM. BASIC I TURE, AASHTC	NSOLIDATE WER AUGE ST (AASH DESCRIPTI D CLASSIF	ED,OR WE ER AND Y ITO T 200 IONS GEN FICATION,	ATHERED E IELD LESS 6, ASTM D1 VERALLY IN AND OTHE	THAN 100 586). SOIL CLUDE THE R PERTINEN	BLOWS PE CLASSIFIC FOLLOWIN FACTOR	ER FOOT CATION NG: NS SUCH	<u>WELL GRADED</u> - INDICAT <u>UNIFORMLY GRADED</u> - IN <u>GAP-GRADED</u> - INDICATES	NDICATE	GOOD REPRES ES THAT SOIL IXTURE OF UN	ENTATION OF PARTIC PARTICLES ARE AL	L APPROXI ZES OF TW	MATELY THE SAME SIZE.	ROCK LINE IN SPT REFUSAL BLOWS IN NO REPRESENTED	IDICATE IS PE IN-COAS BY A	ES THE LEVE ENETRATION E STAL PLAIN ZONE OF WE	AIN MATERIAL THA L AT WHICH NON-C BY A SPLIT SPOON MATERIAL, THE T EATHERED ROCK.	F WOULD YIELD SPT REFUSAL IF TEST COASTAL PLAIN MATERIAL WOULD YIELD SAMPLER EQUAL TO OR LESS THAN Ø. RANSITION BETWEEN SOIL AND ROCK
A	S MINERALD VERY STIFF.G	GICAL COMPOSIT GRAY,SILTY CLAY,MO	ION, ANGULA	RITY, STR	UCTURE, F	*LASTICITY	,ETC. FOR HIGHLY PLAS	EXAMPLE,				ROUNDNESS OF	F SOIL GRAINS IS D		BY THE TERMS:		ALS AR	E TYPICALLY	Y DIVIDED AS FOLL	.OWS: _AIN MATERIAL THAT WOULD YIELD SP1
		OIL LEGEN								ANGULAR, SUBAN						WEATHERED ROCK (WR)				FOOT IF TESTED.
GENERAL CLASS.	(Granular Materia ≤ 35% Passing *2			f-Clay Mat 35% passing		ORG	anic materi	ALS		MES SU	ICH AS QUART	Z, FELDSPAR, MICA, T	ALC, KAOLI		CRYSTALLINE ROCK (CR)			🖞 WOULD YIELD SI	E GRAIN IGNEOUS AND METAMORPHIC RO PT REFUSAL IF TESTED, ROCK TYPE IN
GROUP	A-1	A-3	A-2	A-4	A-5 A-		A-1, A-2	A-4, A-5		ARE USED IN	i DESCH		IN THEY ARE CONSIL	ERED OF S	SIGNIFICANCE.	NON-CRYSTAL			GNEISS, GABBRO,	E GRAIN METAMORPHIC AND NON-COASTA
0	A-1-a A-1-b	A-2-4 A-2	-5 A-2-6 A-2			A-7-5, A-2-6	A-3	A-6, A-7				OMPRESSIBLE		LL < 31	1	ROCK (NCR)			ROCK TYPE INCL	DCK THAT WOULD YEILD SPT REFUSAL LUDES PHYLLITE, SLATE, SANDSTONE, ET(
SYMBOL % Passing				3	A.7:A			SILT-			LY COM	Y COMPRESSIE IPRESSIBLE		LL = 31 LL > 50		COASTAL PLA SEDIMENTARY (CP)			SPT REFUSAL. F	SEDIMENTS CEMENTED INTO ROCK, BUT ROCK TYPE INCLUDES LIMESTONE, SANDS
	50 MX 30 MX 50 MX	51 MN					Granular Soils	CLAY	MUCK, PEAT		F		AGE OF MATER	IAL					SHELL BEDS, ET	THERING
		10 MX 35 MX 35	MX 35 MX 35 J	MX 36 MN	36 MN 36	MN 36 MN	30123	SOILS		ORGANIC MATERIAL		GRANULAR <u>SOILS</u>	SILT - CLAY SOILS		ER MATERIAL	FRESH				INTS MAY SHOW SLIGHT STAINING. ROCK
MATERIAL PASSING *40 LL PI	_ 6 MX		MN 40 MX 41 M MX 11 MN 11 M				SOILS LITTLE	e or	HIGHLY	TRACE OF ORGANIC MA LITTLE ORGANIC MATT MODERATELY ORGANIC HIGHLY ORGANIC	TER	2 - 3% 3 - 5% 5 - 10% > 10%	3 - 5% 5 - 12% 12 - 20% > 20%	TRACE LITTLE SOME HIGHLY	E 10 - 20% 20 - 35%	VERY SLIGHT (V SLI.)	ROCK (CRYST		RESH, JOINTS STAIN OKEN SPECIMEN FAC	ED,SOME JOINTS MAY SHOW THIN CLAY C E SHINE BRIGHTLY, ROCK RINGS UNDER H
GROUP INDEX USUAL TYPES S	Ø STONE FRAGS. GRAVEL, AND	0 0	4 MX		12 MX 16		Modef Amount Orga Matt	is of Nic	ORGANIC		WAT		UND WATER BORE HOLE IMMEDIA	TELY AFT	ER DRILLING	SLIGHT (SLI.)	ROCK (1 INCH	GENERALLY FA	RESH, JOINTS STAIN S MAY CONTAIN CLA	ED AND DISCOLORATION EXTENDS INTO RO YY. IN GRANITOID ROCKS SOME OCCASIONA CRYSTALLINE ROCKS RING UNDER HAMMEF
MATERIALS	SAND	SAND GRAVE	l and sand	SOIL	LS	SOILS							EVEL AFTER 24			MODERATE				DISCOLORATION AND WEATHERING EFFECT
gen, rating As subgrade		EXCELLENT TO GO			Fair to po		Fair to Poor	POOR	UNSUITABLE			CHED WATER, ING OR SEEP	SATURATED ZONE, OF	WATER BE	EARING STRATA	(MOD.)	DULL			E DULL AND DISCOLORED, SOME SHOW CLA D SHOWS SIGNIFICANT LOSS OF STRENGTH
		PI OF A-7-5 SUBGR	OUP IS ≤ LL SISTENC				> LL - 30					MISCELLA	ANEOUS SYMBO	15		MODERATELY SEVERE				OR STAINED. IN GRANITOID ROCKS, ALL F W KAOLINIZATION. ROCK SHOWS SEVERE L
		COMPACTN		RANG	GE OF ST	ANDARD		E OF UNC				2E //	02E			(MOD, SEV.)	AND C	AN BE EXCAV		GIST'S PICK, ROCK GIVES "CLUNK" SOUND
PRIMARY S		VERY L	00SE		(N-VALUE < 4		CUMPH	RESSIVE S (TONS/FT		COLONIAL ENDER			DIP & DIP DIF DF ROCK STRU		SLOPE INDICATOR	SEVERE (SEV.)	ALL RORE	ROCK EXCEPT (ED IN STRENG	QUARTZ DISCOLORED GTH TO STRONG SOI	OR STAINED. ROCK FABRIC CLEAR AND E IN GRANITOID ROCKS ALL FELDSPARS & STRONG ROCK USUALLY REMAIN.
GRANULA MATERIA		L009 MEDIUM	DENSE		4 TO 1 10 TO 3	3Ø		N/A			ILL (AF) OTHER		ے ا	CONE PENETROMETER		<u>IF TES</u>	STED, WOULD	YIELD SPT N VALUE	S > 100 BPF
(NON-CO	HESIVE)	DENS VERY D VERY S SOF	ENSE GOFT		30 TO 5 > 50 < 2 2 TO 4			< 0.25 0.25 TO 0					AUGER BORING	•	Y TEST SOUNDING ROD	VERY SEVERE (V SEV.)	BUT M REMAIN	NING, SAPROLI	CTIVELY REDUCED TO ITE IS AN EXAMPLE	OR STAINED. ROCK FABRIC ELEMENTS AR D SOLL STATUS, WITH ONLY FRAGMENTS OL OF ROCK WEATHERED TO A DEGREE THAT EMAIN. <u>IF TESTED, WOULD VIELD SPT N V</u>
SILT-CL MATERIA (COHESI)	.AY AL	MEDIUM STIF VERY S	STIFF F STIFF		4 TO 8 8 TO 19 15 TO 3	8 .5		Ø.5 TO 1 1 TO 2 2 TO 4	.ø				→ MONITORING WI → PIEZOMETER INSTALLATION	111 - G	TEST BORING WITH CORE	COMPLETE	ROCK F	REDUCED TO S	SOIL, ROCK FABRIC	NOT DISCERNIBLE, OR DISCERNIBLE ONLY MAY BE PRESENT AS DIKES OR STRINGERS
		HAR			> 30 2011 C			> 4					DATION SYMB						ROCK	HARDNESS
U.S. STD. SIE	EVE STZE		4 10	40			27Ø					CLASSIFIED E			ASSIFIED EXCAVATION -	VERY HARD			HED BY KNIFE OR S WS OF THE GEOLOGI	HARP PICK, BREAKING OF HAND SPECIMEN
OPENING (MN	M)	4	.76 2.00		2 Ø.25		0.053				∠ UN □ UN	NSUITABLE WA	ISTE L EXCAVATION -	ACCEF	PTABLE, BUT NOT TO BE IN THE TOP 3 FEET OF NKMENT OR BACKFILL	HARD	CAN BE		BY KNIFE OR PICK	ONLY WITH DIFFICULTY, HARD HAMMER B
BOULDER (BLDR.)	(0	COB.) ((AVEL GR.)	SAND (CSE, S	D 50.)	SAND (F SD.)	, "	ILT 5L.)	CLAY (CL.)			ABB	REVIATIONS			MODERATELY HARD	EXCAV		D BLOW OF A GEOLO	GOUGES OR GROOVES TO 0.25 INCHES DE DGIST'S PICK, HAND SPECIMENS CAN BE D
GRAIN MM SIZE IN.	. 12	3 3 SOIL MOIS	2.Ø		Ø.25			0.005		AR - AUGER REFUSAL BT - BORING TERMINATED CL CLAY		MICA. MOD	- MEDIUM - MICACEOUS - MODERATELY	WEA	- VANE SHEAR TEST A WEATHERED - UNIT WEIGHT	MEDIUM HARD	can Be Can Be	E GROOVED OF	R GOUGED 0.0 5 INCH IN SMALL CHIPS T	HES DEEP BY FIRM PRESSURE OF KNIFE O D PEICES 1 INCH MAXIMUM SIZE BY HARD
	MOISTURE	SCALE	FIELD MO DESCRI	OISTURE		IDE FOR F		TURE DES	CRIPTION	CPT - CONE PENETRATION CSE COARSE DMT - DILATOMETER TES DPT - DYNAMIC PENETRAT	т	ORG PMT -	NON PLASTIC - ORGANIC - PRESSUREMETER TI - SAPROLITIC	EST <u>s</u>	- DRY UNIT WEIGHT SAMPLE ABBREVIATIONS BULK	SOFT	can Bi From	CHIPS TO SEV	GOUGED READILY B VERAL INCHES IN SI	Y KNIFE OR PICK. CAN BE EXCAVATED IN ZE BY MODERATE BLOWS OF A PICK POIN
LL		LIMIT	- SATURA (SAT.			UALLY LIQ OM BELOW				e - VOID RATIO F - FINE - FOSS FOSSILIFEROUS		SD SL	SAND, SANDY SILT, SILTY SLIGHTLY	SS ST	- SPLIT SPOON - SHELBY TUBE - ROCK	VERY SOFT	CAN BE	e carved Wit Dre in Thickn		SSURE. XCAVATED READILY WITH POINT OF PICK. N BY FINGER PRESSURE. CAN BE SCRATCH
PLASTIC RANGE <			- WET -	(W)		MISOLID; R				FRAC FRACTURED, FRAC	TURES	TCR -	TRICONE REFUSAL		- RECOMPACTED TRIAXIAL		FINGEF			DEDDING
(PI) PL		CLIMIT _		,	AT1	TAIN OPTI	MUM MOIST	TURE		FRAGS FRAGMENTS HI HIGHLY		w - M V - V	10ISTURE CONTENT ERY	CBH	t - CALIFORNIA BEARING RATIO	TERM	RAL	TURE SP	SPACING	BEDDING
ОM		M MOISTURE	- MOIST	- (M)	SOL	LID;AT OR	NEAR OP	TIMUM MO	ISTURE	EQU DRILL UNITS:		ENT USE	O ON SUBJECT	HAMMER	R TYPE:	VERY WIDE WIDE MODERATE		3	E THAN 10 FEET 3 TO 10 FEET 1 TO 3 FEET	VERY THICKLY BEDDED THICKLY BEDDED 1 THINLY BEDDED 0.1
	T		- DRY -	(D)		QUIRES AD TAIN OPTI)	CME-45C		CLAY BITS 6" CONTINUOL	JS FLIGHT AUGER	CORE S		CLOSE VERY CLOS	Æ		.16 TO 1 FOOT THAN Ø.16 FEET	VERY THINLY BEDDED 0.0 THICKLY LAMINATED 0.00 THINLY LAMINATED <
	1		PL	ASTICI	TY							8" HOLLOW A		в	П-н					URATION
			PLAST	ICITY IN	DEX (PI)			Y STRENG		CME-55Ø			FINGER BITS	-N				(OCKS, INDUR		DENING OF MATERIAL BY CEMENTING,HE TH FINGER FREES NUMEROUS GRAINS:
SLIC	PLASTIC			Ø-5 6-15				VERY LOW SLIGHT		VANE SHEAR TEST			DE INSERTS	HAND T	TOOLS:	FRIABL	E			W BY HAMMER DISINTEGRATES SAMPLE.
	ERATELY P HLY PLASTI			16-25 26 OR MO	DRE			MEDIUM HIGH		PORTABLE HOIST			STEEL TEETH		OST HOLE DIGGER IAND AUGER	MODER	ATELY	INDURATED		BE SEPARATED FROM SAMPLE WITH ST ILY WHEN HIT WITH HAMMER.
				COLOR	-					X <u>D-50</u>		TRICONE	TUNGCARB.	s 🗌	OUNDING ROD	INDURA	TED			DIFFICULT TO SEPARATE WITH STEEL O BREAK WITH HAMMER.
		INCLUDE COLOF JCH AS LIGHT,I										CORE BIT			ANE SHEAR TEST	EXTREM	MELY I	INDURATED		ER BLOWS REQUIRED TO BREAK SAMPLE

PROJECT REFERENCE NO.

R-5930B

	TERMS AND DEFINITIONS
D. AN INFERRED SPT REFUSAL,	ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.
FOOT PER 6Ø	AQUIFER - A WATER BEARING FORMATION OR STRATA.
IS OFTEN	ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.
	ARGILLACEDUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING
N VALUES >	A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC. <u>ARTESIAN</u> - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT
CK THAT CLUDES GRANITE,	WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE.
L PLAIN	CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.
F TESTED.	$\underline{\text{COLLUVIUM}}$ - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE.
MAY NOT YIELD TONE, CEMENTED	CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.
RINGS UNDER	<u>DIKE</u> - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK.
DATINGS IF OPEN.	<u>DIP</u> - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL.
MMER BLOWS IF	<u>DIP DIRECTION (DIP AZIMUTH)</u> - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.
ck up to . Feldspar	<u>FAULT</u> - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.
BLOWS.	FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.
. IN Y. ROCK HAS	<u>FLOAT</u> - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIG1NAL POSITION AND DISLODGED FROM PARENT MATERIAL.
AS COMPARED	FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.
ELDSPARS DULL	FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD.
DSS OF STRENGTH	JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.
	LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO
VIDENT BUT	ITS LATERAL EXTENT.
RE KAOLINIZED	LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.
	MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS
E DISCERNIBLE	USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.
STRONG ROCK	PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM.
ONLY MINOR ALUES < 100 BPF	RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.
IN SMALL AND	ROCK QUALITY DESIGNATION (RQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF
. SAPROLITE IS	ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.
REQUIRES	$\underline{SAPROLITE\ (SAP.)}$ - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.
OWS REQUIRED	<u>SILL</u> - AN INTRUSIVE BODY OF IONEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.
ep can be Tached	$\underline{\mathrm{SLICKENSIDE}}$ - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE.
R PICK POINT. BLOWS OF THE	STANDARD PENETRATION TEST (PENETRATION RESISTANCE)(SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.
FRAGMENTS	<u>STRATA CORE RECOVERY (SREC.)</u> - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.
PIECES 1 INCH	STRATA ROCK QUALITY DESIGNATION (SRQD)- A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.
ED READILY BY	TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.
	BENCH MARK: BORING COLLAR ELEVATIONS DETERMINED FROM FILE
4 FEET	R5930_LS_TIN.TIN RECEIVED 9/30/2024
5 - 4 FEET	ELEVATION: FEET
6 - 1.5 FEET 3 - Ø.16 FEET	NOTES:
8 - 0.03 FEET	
0.008 FEET	
AT, PRESSURE, ETC.	
EEL PROBE;	
PROBE;	
;	DATE: 8-15-14





2-7029 R-5930B RWALCADD_GEOTECHNSHO&SUDNF5930B_GEO_RWAL_ENVELOPE

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COLLAR ELEV. 469.0 ft TOTAL DEPTH 34.3 ft NORTHING 733,301 EASTING 1,952,930 24 HR. Dry COLLAR ELEV. 469.6 ft TOTAL DEPTH 24.9 ft N DRILL RIG/HAMMER EFF./DATE SEL0435 DIEDRICH D-50 83% 08/27/2024 DRILL METHOD H.S. Augers HAMMER TYPE Automatic DRILL RIG/HAMMER EFF./DATE SEL0435 DIEDRICH D-50 83% 08/27/2024 DRILLER M. Morgan START DATE 10/08/24 SURFACE WATER DEPTH N/A DRILLER M. Morgan START DATE 10/08/24 D ELEV DRIVE DEPTH BLOWS PER FOOT SOIL AND ROCK DESCRIPTION BLOW COUNT BLOWS PER FOOT											ORE	_00															
BORING NO. WI_16150_RT STATION 161+50 OFFSET 58 RT ALIGNMENT U OHR Dry COLLAR ELEV. 460.0 ft TOTAL DEPTH 34.3 ft NORTHING 733.01 EASTING 1,622.930 24 HR Dry DRUL ROHAMMEER FF. DATE SCAUSS DEPROCH D68 SW072024 ORLIN ROHAMMEER FF. DATE SCAUSS DEPROCH D68/SW087027024 DRUL ROHAMMEER FF. DATE SCAUSS DEPROCH D68/SW08702704	WBS	4854	8.1.2			Т	IP R-{	5930B		COUNT	TY CHATH	AM			GE	DLOGIST M. Stanbury		WBS	48548	3.1.2			ТІ	P R-5930E	3	COUNT	Υ
COLLAR ELEV. 460.0 ft TOTAL DEPTH 34.3 ft NORTHING 733.301 EASTING 9.24 HR. Dry DRILL ROMAMMER FF.DATE SCILAR ELEV. 460.0 ft 5300 (bt) DRILL ROMAMMER FF.DATE SCILAR ELEV. 460.0 ft TOTAL DEPTH 24.3 ft N DRILL ROMAMMER FF.DATE SCILAR ELEV. 460.0 ft 737.024 DRILL ROMAMMER TF.DATE SCILAR ELEV. 460.0 ft 70.002/41 SCILAR ELEV. Morgan SCILAR ELEV. 460.0 ft 73.002/41 DRILL ROMAMMER TF.DATE DRILL ROMAMMER TF.DATE SCILAR ELEV. 460.0 ft 73.002/41 DRIL ROMAMMER TF.DATE SCILAR ELEV. <th>SITE</th> <th>DESCF</th> <th>RIPTION</th> <th>Ch</th> <th>atham</th> <th>Park</th> <th>Way No</th> <th>orth of</th> <th>Propose</th> <th>ed Grant</th> <th>Drive to US</th> <th>15 / 501</th> <th>(Reta</th> <th>aining</th> <th>y Wall N</th> <th>los. 1 & 2)</th> <th>GROUND WTR (ft)</th> <th>SITE</th> <th>DESCR</th> <th>RIPTION</th> <th>Cha</th> <th>itham</th> <th>Park V</th> <th>Vay North o</th> <th>f Propose</th> <th>d Grant</th> <th>Driv</th>	SITE	DESCF	RIPTION	Ch	atham	Park	Way No	orth of	Propose	ed Grant	Drive to US	15 / 501	(Reta	aining	y Wall N	los. 1 & 2)	GROUND WTR (ft)	SITE	DESCR	RIPTION	Cha	itham	Park V	Vay North o	f Propose	d Grant	Driv
DRILL RIGHAMMER EFF.DATE SEL03S DEDRICH D-50 83% 0827/2024 DRILL METHOD H.S. Auges HAMMER TYPE Automatic DRILLER M. Morgan START DATE 1008/24 COMP. DATE 1008/24 SURFACE WATER CEPTH NA DRILLER M. Morgan START DATE 1008/24 COMP. DATE 1008/24 SURFACE WATER CEPTH NA 470 465 0.58 0	BOR	ING NO	. W1_	1615)_RT	s	TATIO	N 16	1+50		OFFSET	58 ft RT	-		ALI	GNMENT -L-	0 HR. Dry	BOR	ING NO	. W1_	16243		ST	T ATION 16	62+43		0
DRILLER M. Morgan START DATE 10/08/24 COMP. DATE 10/08/24 SURFACE WATER DEPTH N/A ELEV DRVE DEFTH BLOW COUNT BLOWS PER FOOT SAMP 1 BLOWS PER FOOT BLOWS PER FOOT <td>COL</td> <td>LAR EL</td> <td>EV. 46</td> <td>69.0 ft</td> <td></td> <td>Т</td> <td>OTAL</td> <td>DEPT</td> <td>H 34.3</td> <td>ft</td> <td>NORTHIN</td> <td>G 733,3</td> <td>301</td> <td></td> <td>EAS</td> <td>STING 1,952,930</td> <td>24 HR. Dry</td> <td>COL</td> <td>LAR EL</td> <td>EV. 46</td> <td>69.6 ft</td> <td></td> <td>тс</td> <td>OTAL DEPT</td> <td>H 24.9 ft</td> <td>t</td> <td>N</td>	COL	LAR EL	EV. 46	69.0 ft		Т	OTAL	DEPT	H 34.3	ft	NORTHIN	G 733,3	301		EAS	STING 1,952,930	24 HR. Dry	COL	LAR EL	EV. 46	69.6 ft		тс	OTAL DEPT	H 24.9 ft	t	N
ELEV Derry BLOW COUNT BLOWS PER FOOT SAMP No MOI G BLOW COUNT BLOWS PER FOOT BLOWS PER FOOT 470 0.0 25 50 75 100 NO MOI G ELEV (III) 0.51 0	DRIL	L RIG/HA	MMER E	EFF./DA	ATE S	EL0435	5 DIEDRI	CH D-5	0 83% 08/	27/2024		DRILL I	METHO	DD H	H.S. Auge	ers HAMM	ER TYPE Automatic	DRILI	RIG/HA	MMER E	FF./DA	TE SI	EL0435 [DIEDRICH D-	50 83% 08/2	27/2024	
Chin Elev Chin Oscili AND ROCK DESCRIPTION Depthem 470 469.0 0.0 2 3 4 7 469.0 0.0 2 3 4 7 469.0 0.0 2 3 4 7 469.0 0.0 2 3 4 7 469.0 0.0 469.0 0.0 3 4 7 469.0 0.0 3 4 7 469.0 0.0 3 4 7 469.0 0.0 3 4 7 469.0 0.0 3 4 7 469.0 3 4 7 470.0 469.0 3 4 7 10 10 0.0 3 4 7 10 <th>DRIL</th> <th>LER N</th> <th>/I. Morg</th> <th>an</th> <th></th> <th>S</th> <th>TART</th> <th>DATE</th> <th>10/08/2</th> <th>24</th> <th>COMP. D</th> <th>ATE 10/</th> <th>/08/24</th> <th>ŀ</th> <th>SUF</th> <th>RFACE WATER DEPTH N/</th> <th>A</th> <th>DRIL</th> <th>LER N</th> <th>1. Morg</th> <th>an</th> <th></th> <th>ST</th> <th>ART DATE</th> <th>10/08/2</th> <th>4</th> <th>C</th>	DRIL	LER N	/I. Morg	an		S	TART	DATE	10/08/2	24	COMP. D	ATE 10/	/08/24	ŀ	SUF	RFACE WATER DEPTH N/	A	DRIL	LER N	1. Morg	an		ST	ART DATE	10/08/2	4	C
(ii) (iii)	ELEV	DRIVE ELEV		·					BLOWS	PER FOO						SOIL AND ROCK DESC	CRIPTION	ELEV	DRIVE	DEPTH	· — — — — — — — — — — — — — — — — — — —				BLOWS F	PER FOO	ſ
460.0 0.0 2 3 4 7 1 </td <td>(ft)</td> <td></td> <td>(ft)</td> <td>0.5ft</td> <td>0.5ft</td> <td>0.5ft</td> <td>0</td> <td>25</td> <td>5</td> <td>50</td> <td>75 10</td> <td>) NO.</td> <td>Имс</td> <td>ы G</td> <td>ELEV.</td> <td></td> <td></td> <td>) (ft)</td> <td>(ft)</td> <td>(ft)</td> <td>0.5ft</td> <td>0.5ft</td> <td>0.5ft</td> <td>0 2</td> <td>25 5</td> <td>50</td> <td>75 I</td>	(ft)		(ft)	0.5ft	0.5ft	0.5ft	0	25	5	50	75 10) NO.	Имс	ы G	ELEV.) (ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft	0 2	25 5	50	75 I
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455 455.4 13.6 8 16 28 450 450.4 18.6 7 10 11 11 17 445 445.4 23.6 11 11 11 17 1000.7 440 440.4 28.6 22 54 46/0.2 1000.7	460	460.4	<u>+ 8.6</u> +	12	13	20		· · ·	<u> </u>							Brown, Dense, Silty Sand	(A-2-4) with	460		- 0.9	5	8	8	16-			· —
455 455.4 13.6			ŧ												}	Moderate Graver Sized Not	ok i raginents			ŧ							
450 450.4 18.6 7 10 11	455	455.4	+ + 13.6					•••	· · · · ·						456.0	Brown and Black Very S	tiff to Hard	455	456.1	13.5	14	33	24				•
450 450.4 18.6 7 10 11 10	100	-	ŧ	8	16	28	1 1			1		1	D		-	Saprolitic, Sandy Silt (A-4) with Sized Book From	th Trace Gravel	100	-	ŧ							
450 450.4 118.6 10 11			ŧ					•••	· · · · · ·						F	Sized Rock Flagin	lents		451 1	+ 185						· · ·	
445 445.4 22.6 11	450	450.4	<u>† 18.6</u> †	7	10	11	$ \cdots $,				21%		L			450		+	10	30	70/0.4			· · · · ·	;
445 445.4 23.6			ŧ						· ·				1		447.0		22 0			ŧ							.
440 440.4 28.6	445	445.4	+ 23.6						· · · · ·						┥	Brown and Black, Very Stiff,	Saprolitic, Silty				60/0.0						
440 440.4 28.6		-	Ŧ	11	11	17			9 28			1	D		+				444.7-	<u>= 24.9</u> -							<u> </u>
440 440.4 22.05 22 54 46/0.2			Ŧ				11								Ŧ					Ŧ							
435 435.4 33.6 37/0.2	440	440.4	<u>† 28.6</u> 	22	54	46/0.2	2		<u> </u>			•			439.9	WEATHERED RC		$\left\{ \right\}$	-	Ŧ							
100/0.7 Boring Terminated at Elevation 434.7 ft in - Weathered Rock (Metavolcanic) - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -			Ŧ				11								F					Ŧ							
100/0.7 Boring Terminated at Elevation 434.7 ft in - Weathered Rock (Metavolcanic) - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -	435	435.4	33.6		07/0 (_									434 7		34.3			Ŧ							
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IT.	Y CHATHA	١	Л				GEOL	.0G	IST M.	Stanbu	ury		
t E	Drive to US	15	5 / 501	(Retai	ning	W	all No	s. 1	& 2)			GROUN	D WTR (ft)
	OFFSET	49	9 ft RT				ALIG	ME	NT -L-			0 HR.	Dry
	NORTHING	3	733,3	45			EAST	ING	1,952,	,848		24 HR.	Dry
		ſ	DRILL N	IETHO	D H	.S.	Augers				HAMM	ER TYPE	Automatic
	COMP. DA	Т	E 10/0	08/24			SURF	ACE	E WATEI	R DEP	TH N/	Ą	
от		Π	SAMP.	$\overline{}$	L O		-		SOIL AM		K DESC	RIPTION	
	75 100		NO.	моі	Ğ				001274	12			
							469.6		G	ROUND	SURFA	CE	0.0
				М	\mathbf{N}	-		Re	ed and Bro		IDUAL dium Stif	f to Very S	Stiff
•••					\square	-			Saprolitic,	Silty Cla) with Trac	
	+		SS-17	34%		_			Glave	i oizeu i	NUCK I I d	iginenis	
• •						-							
• •	••••			D		-							
				-	\square	-							
							456.6						<u>13.0</u>
	· · · ·			D		-		Br	own, Harc Grave	d, Sandy I Sized I	[,] Clay (A Rock Fra	-6) with Tra	ace
						-							
	<u> </u>					- 4	150.6						19.0
	100/0.9					-			W		RED RO /olcanic)		
· ·						- ,	146.4			,	,		00 F
	• • 60/0.0				P		146.1 144.7		CF				23.5
	60/0.0					-	1	<u> </u>	Boring		/olcanic) ted with	Standard	/
						-		Per	netration 7	Test Ref	usal at E	Elevation 4 avolcanic)	44.7
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	3 4854					P R-5					CHATH						OGIST M. Stanbury			WBS	48548	5.1.2			ТІ	P R-593	0B	CC	DUNTY	(
SITE	DESCR	RIPTION	Cha	atham	Park V	Vay No	orth of	Propo	sed G	rant D	rive to US	5 15 / 50	1 (Re	tain	ning Wall	Nos	. 1 & 2)		VTR (ft)	SITE	DESCR	IPTION	Cha	tham	Park V	Vay North	of Prop	posed G	irant Dri	ve
BOR	ING NO	. W1_	16350)	SI	TATION	N 16	3+50			OFFSET	56 ft R	Т		AL	IGN	MENT -L-	0 HR.	Dry	BOR	ING NO.	W1_	16410		S	TATION	164+10)	C	DF
COL	LAR EL	EV . 46	69.4 ft		тс	OTAL D	DEPTH	H 35.0) ft		NORTHI	IG 733	,410		EA	ASTII	NG 1,952,763	24 HR.	Dry	COL	LAR ELE	EV . 46	66.1 ft		т	OTAL DE	PTH 19	9.8 ft	N	NC
DRIL	l Rig/Ha	MMER E	FF./DA	TE SI	EL0435 I	DIEDRIG	CH D-5	0 83% 0	3/27/20	24		DRILL	METH	HOD	H.S. Au	gers	НАММ	ER TYPE Aut	omatic	DRIL	RIG/HAI	MMER E	FF./DA	TE SI	EL0435	DIEDRICH	D-50 83%	6 08/27/20)24	
DRIL	LER N	-	an		ST		DATE	10/09	/24		COMP. D	ATE 10)/09/2	24	SL	JRFA	CE WATER DEPTH N/	/A		DRIL	LER M	. Morg	an		S	TART DA	FE 10/	10/24	C	cc
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	· — —	OW CO 0.5ft		0	25	BLOW:	S PER 50		75 10	0 SAMF	17	/	L O G ELE	V. (ft)	SOIL AND ROCK DESC		DEPTH (ft)	ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	·	OW CO 0.5ft	_	0	BLO 25	WS PER 50	FOOT 7t	5
470	469.4	 	5	5	6	· · •		<u> </u>	· ·		· · · ·		N	1	-469.		GROUND SURFA		0.0	470	-	-								
465	465.9	- - <u>3.5</u>	4	4	5		· · ·	· · · · · · ·	· · ·	· · · ·		_	N		466.	<u>4</u> –	Red and Brown, Stiff, Sandy Trace Gravel Sized Rock Red and Brown, Stiff, Sapro (A-7-6)	Fragments	<u>3.0</u>	465	466.1	<u>0.0</u>	3	4	3	7				
460	460.9	- - 8.5	6	10	16	· · · · · · · · · · · · · · · · · · ·	\. .\. \	26	 	· · · · · · ·			1 21	%		4	Brown, Gray, and Black, Ver Saprolitic, Sandy Sil	ry Stiff to Hard, It (A-4)	<u>6.0</u>	460	462.7 -	- 3.4 - -	5	10	13		 23 [°]	· · · ·	· · · ·	-
455	455.9	+ - - 13.5	17	31	41	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·													455	457.7 - 	- <u>8.4</u> -	4	4	6	· · /· · · /· · •10	· · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · ·	- - - -
450	450.9	- - - - 18.5	40		31	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	· · ·	· · /· · /· · /· · ·					- 452.	4	Gray, Brown, and Black, De Silty Sand (A-2-		<u> </u>	450	452.7 -	- <u>13.4</u> -	7	12	26			 	· · · · · · · · ·	-
450	445.9	+ + - - - - - -	12	17	31	· · · · · · · · · · · · · · · · · · ·			• 48- 1	· · · · · · · ·)	448 <u>-</u> 448-	4	Gray and Brown, Hard, Sapro (A-4)	,	<u>21.0</u>	450	447.7 -	- - 18.4	20	36	64/0.4		· · · ·		· · · ·	
445		+	20	20	16	· · · · · · · · · · · · · · · · · · ·			· · ·	· · · · · · · ·	· · · · ·)							-	-								
440	440.9	<u>28.5</u>	43	53	47/0.4	· · ·		· · ·	· <u> </u>	<u></u> .		-!!		ر∘ ∘۸۸۴< צ⊄יייייי	440.		WEATHERED RC (Metavolcanic RESIDUAL		<u>29.0</u> <u>31</u> .0			-								
435	435.9	<u>33.5</u>	20	22	53		· · · ·	· · · ·	· ·	· · · ·	• • • • • • • • • •	_) (4	Gray and Brown, Very Den Clayey Sand (A-2 Boring Terminated at Eleval	2-6) tion 434.4 ft in	35.0		-									
																	Boring Terminated at Eleval Clayey Sand -Station and Offset Relative -W1- (11+99, 8'1	e to Alignment												

NT	Y CHATHA	M			GEOL	.OGIST M. Stanbu	ury		
nt D	Prive to US 1	5 / 501	(Retai	ning V	Nall No	s. 1 & 2)		GROUN	D WTR (ft)
	OFFSET 9	91 ft RT			ALIG	NMENT -L-		0 HR.	Dry
	NORTHING	7 33,4	73		EAST	ING 1,952,732		24 HR.	Dry
		DRILL N	IETHO	D H.S	S. Augers		НАММ	ER TYPE	Automatic
	COMP. DA	TE 10/ ⁻	10/24		SURF	ACE WATER DEP	TH N/	A	
ют		SAMP.		L					
	75 100	NO.	моі	O G		SOIL AND ROC	K DESC	RIPTION	
					-				
				-					
		SS-47	21%		466.1	GROUND RES	DURFA	CE	0.0
		00-47	21/0		464.1	Brown, Medium Stiff, Trace Gravel Size	Sandy	Clay (A-6)	with
•••			D			Gray and Orange, Me	edium De	ense, Sapr	olitic,
•••				-	- 450 4	Silty Sa	nd (A-2-4	4)	7.0
•••				, v L	459.1	Brown, Orange, and	Black, S	Stiff, Sapro	litic,7.0
			м	л ^V -		Clayey	Silt (Á-5)	
				1, r 1, r	-				
· ·					151.0				11.0
•••			М		451.8	Gray and Brown, D	ense, Sa	aprolitic, S	14.3 Ity
					-	Sand	(A-2-4)		
	 			_	447.2 446.3				<u>18.9</u> 19.8
	100/0.9)		47/12	446.3	WEATHE (Metav	RED RC volcanic)		19.8
				-	-	Boring Terminated a	at Elevat	ion 446.3 1	t in
						Weathered Roo			
					_	-Station and Offset -W1- (1	Relative 2+66, Cl	to Alignm L)	ent
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SITE	DESCR	IPTION	Cha	tham	Park \	Way N	North o	f Propo	sed Gra				-	ainin	-	los. 1 & 2)	GROUND WTR	(ft)	SITE	DESCR	IPTION	Cha	atham	Park \	Nay Nort	h of Propo	osed Gra	
BOR	ing no.	W2_	16147	_LT	S	TATIO	DN 16	61+47		C	OFFSET	68 ft LT			ALI	GNMENT -L-	0 HR.	Dry	BOR	ing no.	W2_	16252	2_LT	S	TATION	162+52		OF
COL	LAR ELE	EV. 45	59.5 ft		Т	OTAL	DEPT	H 29.3	8 ft	N	ORTHIN	G 733, ⁻	195		EA	STING 1,952,863	24 HR.	Dry	COL	LAR ELE	EV . 46	61.3 ft		Т	OTAL DE	PTH 35.	9 ft	NO
DRILL	RIG/HAI	MMER E	FF./DA	TE SE	EL0435	DIEDF	RICH D-	50 83% 0	8/27/2024			DRILL	METH	OD	H.S. Aug	ers HAMM	IER TYPE Automa	tic	DRILI	RIG/HAN	MMER E	FF./DA	ATE S	EL0435	DIEDRICH	D-50 83% (08/27/2024	4
DRIL	LER M	. Morga	an		S	TART	DATE	10/08	/24	C	COMP. DA	TE 10/	/08/24	4	SU	RFACE WATER DEPTH N	/A		DRIL	LER M	I. Morg	an		S	TART DA	TE 10/0	9/24	со
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)		0.5ft		0	2	BLOW	S PER F0 50	DOT 7ţ	5 100	SAMP. NO.	17			SOIL AND ROCK DES	CRIPTION DEP1	Г <u>Н (ft)</u>	ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	· – – – – –	OW CO 0.5ft		0	BLOW 25 1	/S PER F 50 I	OOT 75
460	459.5	<u> </u>	2	1	3	4 .	· · · ·		· · · ·	· · ·		SS-1	23%	6	- 459.5	GROUND SURF. RESIDUAL Brown, Medium Stiff to Har		0.0	465									
455	455.9	3.6	7	26	30		· · · · · · · ·		· · · ·	· · ·	· · · · ·	SS-2	18%			(A-6)	u, Sanuy Ciay		460	461.3		4	5	4		· · · · ·	· · · ·	
450	450.9	- 8.6	37	63/0.3			· · · ·	· · · · · · · ·	· · · · · · · ·	· · ·	100/0.8				450.9	WEATHERED R((Metavolcanic		<u>8.6</u> 11.0	455	457.9 	<u>3.4</u>	4	5	11			· · · · · · · ·	
445	445.9	- - 13.6 -	17	12	52		· · · ·	· · · · · · ·	· · · ·	•64			D			RESIDUAL Brown and Black, Hard, Sap (A-7-6)		11.0	450	452.9 -	- 8.4 - -	14	20	44		· · · · ·	· · · ·	•64
440	440.9	- 18.6	21	31	37		· · · ·	· · · · · · · · · · ·	· · ·		· · · · · · · · · · · · · · · · · · ·		D						445	447.9 -	<u>13.4</u>	34	55	44		· · · · ·	· · · ·	
435	435.9	23.6	53	47/0.1			· · · ·			· \ · \ · ·\		•			435.9	WEATHERED R		23.6	440	442.9	- <u>18.4</u> -	22	46	54/0.4		 	 	
	430.9	- 28.6	60	40/0.2			· · · ·	· · · · · · · · · · ·	· · · · · · · · · · · ·		100/0.7				430.2	(Metavolcanic		29.3	435	437.9	23.4	12	15	28		 	43 · ·	
		- - -									100/0.7					Boring Terminated at Eleva Weathered Rock (Meta -Boring Located 3 Feet D Alignment -W2- (10+0	avolcanic) ownstation of		430	432.9 -	28.4	14	17	38		 	• • 55	
	-	- - -																		426.9	34.4	11	14	14			· · · ·	

IΤΥ	′ CH/	ATH/	۸N	Ν			GE	OLOGI	ST M. Stant	oury		
t D	rive to	US	15	5 / 501	(Retai	ning	Wall	Nos. 1	& 2)		GROUN	ID WTR (ft)
	OFFS	ET	5	9 ft LT			AL	IGNME	NT -L-		0 HR.	Dry
\uparrow	NORT	HING	3	733,2	60		EA	STING	1,952,780		24 HR.	Dry
			Τ			DН		pers		НАММ	ER TYPE	Automatic
Т	COMF	ם מ	-		09/24		_		WATER DEF			
 TC	COM			SAMP.	55/24	L	130				~	
	75	100		NO.		0			SOIL AND RO	OCK DESC	RIPTION	
	Ĩ		Η	110.	/моі	G						
							_					
							-					
							- 461.3 -	3		ID SURFA	CE	0.0
				SS-21	15%		_	Red	l, Orange, and I	Brown, Sti	ff to Very \$	Stiff,
							F	Sap	rolitic, Sandy Sil Sized Ro	lt (A-4) wit ock Fragm	h Trace G ents	ravel
•		· ·			D		-			5		
	1						454.3	<u> </u>	own and Black,		Sanchi	<u>7.0</u>
64		· ·			D		F	Dľ	Silty S	and (A-2-	зе, заргон 4)	uo,
		•••					_					
			1				F					
:		\sim	99	9	D		F					
•		I					-					
•		··į					-					
:						977	- 442.4 -		WEATH	ERED RO	СК	18.9
		00/0.9	[<i>The</i>	<u>440.</u>	<u> </u>		avolcanic) SIDUAL		<u></u> <u>21.0</u>
:		· ·					_	Brov	n, Saprolitic, D	ense to Ve	ery Dense,	Silty
•		• •			D		-		San	d (A-2-4)		
-	+ • •						_					
:		· · · ·					-					
:	· · ·	· ·			D		_					
	· · ·						_					
		• •					_ 427.3	3				
•		· · · ·			м	/./	- - 425.4	Bro 1	own, Medium D San	ense, Sap d (A-2-6)	rolitic, Cla	yey 35.9
							-	Во	ring Terminated	at Elevat	ion 425.4 1	ft in
							-		Clay	yey Sand		
							-	-S	tation and Offse W2- (1-	et Relative 1+02, 3' F		ent
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					_	-	-	ed Grant	Drive to US		-	aining		· · · · · · · · · · · · · · · · · · ·	GROUND WTR	• •							Vay North	-	ed Grant I	
	ING NO.				_	TATION 1			OFFSET				_	MENT -L-	4	Dry		NG NO.					TATION 1			OF
	LAR ELI					DTAL DEP			NORTHING					IG 1,952,697		4.5		AR ELE					DTAL DEP			NO
				TE SE		DIEDRICH			1				I.S. Augers		ER TYPE Automat	ic					TE SI		DIEDRICH D			
DRIL			1						COMP. DA					CE WATER DEPTH N	/A		DRIL	LER M	-	1						CC
ELEV (ft)		DEPTH	·			0		PER FOO		SAMP.				SOIL AND ROCK DES	CRIPTION		ELEV (ft)		DEPTH (ft)	·		-			PER FOOT	
(11)	(ft)	(ft)	0.5ft	0.5ft	0.5ft	0	25	50	75 100	NO.	Имо) G	ELEV. (ft)		DEPT	H (ft)	(11)	(ft)	(11)	0.5ft	0.5ft	0.5ft	0	25	50	75
1																										
460	458.8 -	0.0											458.8	GROUND SURF	ACE	0.0	460		-							
	400.0 -	<u>+ 0.0</u> +	4	4	4	·•8 · ·					М		456.8	RESIDUAL		2.0		450 -	-							
455	455.4	3.4				· · · ·							- + <u>-</u>	Red and Black, Stiff, Silty Red, Brown, Black, and Ora	ange. Medium		455	456.7 -	- 0.0 -	4	4	6	· • 10 ·		• • • •	
	-	ŧ	3	4	5	. • 9					м		F	Stiff to Stiff, Saprolitic, Sa	ndy Silt (A-4)			453.4	- 3.3							. .
	-	ŧ				: : : :			 									-	-	2	2	4				. .
450	450.4	8.4	2	3	4		· · · ·		· · · · ·	SS-31	51%		- -				450	-	-				· · · ·			· ·
	-	ŧ				· · · · · ·			· · · · · ·	00-01	1		}					448.4	8.3	10	23	26				
445	- 445.4	+ + 13.4				:\;::			 								445	4	-	-	-		· · · · ·		49	· ·
440		- 10.3 -	3	4	8	. 12							F				445	443.4	-						· · · · ·	. – .
	-	ŧ					1.5.		 		M		<u> </u>					440.4	- 10.0	22	42	58/0.4			· · · · ·	:+-
440	440.4	18.4	24	36	43			<u> </u>					440.1			18.7	440	4	-							· _ ·
		<u> </u>		00	10				. 19.79		D		438.9	Gray and Orange, Very Der Clayey Sand (A-2	2-6)	19.9		438.4	18.3	100/0.2						· _ ·
	-	ŧ											L	Boring Terminated at Eleva Clayey Sand				-	-	100/0.2						
	-	ŧ											F	-Station and Offset Relative				-	-							
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ΙΝΤ	/ CH/	ATH/	٩V	Л				GEOLOGI	ST M. Stanbu	ury		
int D	rive to	US	15	5 / 501	(Retai	ning	Wa	all Nos. 1 8	& 2)		GROUN	D WTR (ft)
	OFFS	ET	68	8 ft LT				ALIGNMEN	NT -L-		0 HR.	Dry
	NORT	HING	3	733,3	47			EASTING	1,952,635		24 HR.	Dry
1			Π	DRILL N	IETHO	DН	.S. /	Augers		HAMME	R TYPE	Automatic
	COMF	P. DA	T.	E 10/0	09/24			SURFACE	WATER DEP	FH N//	4	
тос				SAMP.		L						
	75	100		NO.	мог	O G			SOIL AND ROC	K DESC	RIPTION	
						Ŭ						
						-						
							-	56.7	GROUND		CE	0.0
			Η	SS-34	14%		_		RES	IDUAL		0.0
	+					\sim	<u>4</u>	$\frac{54.7}{Br}$	own and Orange, own and Black, M	Stiff, Sa	ndy Silt (A	$\frac{-4)}{-2.0}$
•••	· ·	•••		SS-35	28%		_	Sap	prolitic, Highly Pla	astic, Silt	y Clay (A-7	d, 7-5)
• •		• •					_					
						\mathbb{N}	_					
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• •		• •				N	- 44	42.9				13.8
	+ + + +	0/0.9				10	_		WEATHE	RED RO		
•••		•••				10	_		(ivieta)	/oicanic)		
• •	<u> </u>	 0/0.2	Ч			H	43	38.2 Dor	ing Terminated a	t Elevet	am 420.0 f	18.5
		0, 0.L					_	DOI	Weathered Roo	ck (Meta	volcanic)	un
							_	-St	ation and Offset	Relative	to Alignme	ent
							_		-W2- (12	2-72, 1' L	т)	
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Laboratory Testing Summary

Project Number: 48548.1.2

TIP Number: R-5930B

County: Chatham

Description: Chatham Park Way North of Proposed Grant Drive to US 15/501 (Retaining Wall Nos. 1 and 2)

Boring No.	Sample No.	Station	Offset	Northing	Easting	Depth Interval	Lab ID	AASHTO	L.L. P.I.				Veight		% Retained #4	9	6 Passing (sieve	es)	% Moisture	% Organic
Bornig No.	Sample NO.	Station	(feet)	Northing	Easting	(feet)		Class.	L.L.	F.I.	Coarse Sand	Fine Sand	Silt	Clay	Sieve	#10	#40	#200		
W1_16150_RT	SS-12	161+50	58' RT	733301	1952930	18.6-20.1	24-1963	A-4 (0)	NP	NP	9.3	19.3	43.4	28.0	0.0	100	95.9	76.7	21.1%	
W1_16243	SS-17	162+43	49' RT	733345	1952848	3.5-5.0	24-1964	A-7-5 (24)	60	19	4.4	6.3	20.2	69.1	0.0	100	97.1	91.1	34.1%	
W1_16350	SS-41	163+50	56' RT	733410	1952763	8.5-10.0	24-1965	A-4 (9)	37	9	1.8	19.2	48.6	30.4	0.0	100	99.6	85.5	20.9%	
W1_16410	SS-47	164+10	91' RT	733473	1952732	0.0-1.5	24-1966	A-6 (5)	36	12	21.0	12.3	33.9	32.8	11.8	82.2	68.3	58	20.5%	
W2_16147_LT	SS-1	161+47	68' LT	733195	1952863	0.0-1.5	24-1967	A-6 (7)	37	11	13.0	12.5	41.6	32.9	4.6	90.1	81.5	70.8	22.9%	
W2_16147_LT	SS-2	161+47	68' LT	733195	1952863	3.6-5.1	24-1968	A-6 (5)	37	12	22.2	22.8	38.9	16.1	6.8	91.5	79.4	55.3	17.7%	
W2_16252_LT	SS-21	162+52	59' LT	733260	1952780	0.0-1.5	24-1969	A-4 (1)	27	7	17.1	10.3	42.2	30.4	26.3	65.8	56.2	49.9	15.4%	
W2_16352_LT	SS-31	163+52	59' LT	733260	1952780	8.4-9.9	24-1970	A-4 (0)	NP	NP	3.0	5.8	48.0	43.2	0.0	100	98.2	93.2	51.4%	
W2_16421	SS-34	164+21	68' LT	733316	1952697	0.0-1.5	24-1971	A-4 (0)	23	4	21.0	9.8	38.9	30.3	19.1	64.8	52.7	47	14.4%	
W2_16421	SS-35	164+21	68' LT	733347	1952635	3.3-4.8	24-1972	A-7-6 (54)	75	49	1.4	5.1	22.7	70.8	0.0	100	98.9	96	28.2%	

Certified Lab Technician Signature

147-02-0821

Certification Number